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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/584,046	05/30/2000	Yu-Suk Yun	678-495 (P9204)	9895

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10/10/2003

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EXAMINER

NGUYEN, STEVEN H D

ART UNIT

PAPER NUMBER

2665

DATE MAILED: 10/10/2003

4

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/584,046

Applicant(s)

YUN ET AL.

Examiner

Steven HD Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 May 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Specification

1. Page 1, lines 11, "Background of the invention" should be removed and insert into line 18.

Claim Objections

2. Claims 1 and 4-6 are objected to because of the following informalities:

The acronyms "DPCCH", "DPDCH", "TFCI" and "FBI" must be spelled out.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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5. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamada (USP 6466563) in view of Admitted prior art.

Regarding claim 1, Yamada discloses (Figs 1-9 and Col. 1, lines 1 to col. 10, lines 38) a mobile station transmitter for transmitting a data frame in a mobile communication system during a time duration when there is no transmission message transmitted from a mobile station to a base station wherein each time slot in the data frame further comprises a first slot duration and a second slot duration, wherein the first slot duration contains said power control signal and the second slot duration contains no signal during at least a partial duration thereof (Fig 1, 3, 5, 9 discloses a time slot of the frame which includes a power control "TPC" in the first period of a time slot and second period of time slot contains no data when the system does not have any data to transmit to the destination). However, Yamada fails to disclose the DPCCH for transmitting the data frame. In the same field of endeavor, The admitted prior art discloses a system comprising a dedicated control channel (DPCCH) including at least a power control signal, the data frame having a plurality of time slots and being transmitted over said dedicated control channel (Figs 1-5 and Page 1, lines 20 to page 10, lines 5).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to apply a dedicated control channel (DPCCH) said data frame having a plurality of time slots and being transmitted over said dedicated control channel including at least a power control signal as disclosed by the admitted prior art into Yamada's system. The motivation would have been to allow synchronization with the base station to be maintained and making it possible to restart communication immediately.

Regarding claims 2-4, Yamada discloses (Figs 1-9 and Col. 1, lines 1 to col. 10, lines 38) the method comprising the steps of determining whether there is data to transmit to a base station and gating transmission of the control information includes a power control signal (Fig 3, TPC); pilot symbol (Fig 3, PL) in a partial duration of a predetermined one of the slots when there is no data to transmit for a predetermined time (Fig 1, 3, 5 and col. 3, lines 37-45). However, Yamada does not disclose a method for transmitting control information in a mobile station of a mobile communication system which transmits the control information filled in a frame on a dedicated control channel, the frame being divided into a plurality of slots and TFCI bits, and FBI bits for a phase difference between at least two transmit diversity antennas used by the base station. In the same field of endeavor, the admitted prior art discloses a system comprising a dedicated control channel (DPCCH) for transmitting a data frame having a plurality of time slots and TFCI bits, and FBI bits for a phase difference between at least two transmit diversity antennas used by the base station. (Figs 1-5 and Page 1, lines 20 to page 10, lines 5).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to apply a dedicated control channel (DPCCH) for transmitting a data frame having a plurality of time slots as disclosed by the admitted prior art into Yamada's system. The motivation would have been to allow synchronization with the base station to be maintained and making it possible to restart communication immediately.

Regarding claims 5-6, Yamada discloses (Figs 1-9 and Col. 1, lines 1 to col. 10, lines 38) a switch (Fig 1, Ref 309) for gating a signal such control information having transmission power signal and pilot symbol (Fig 3, Ref TPC and PL) and a controller (Fig 2, Ref 308) for gating the switch such that when there is no dedicated data channel signal to be transmitted to a base station

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for a predetermined time, the control information is transmitted in a partial duration of a predetermined one of slots constituting a frame (Fig 1, 3, 5 and col. 3, lines 37-45). However, Yamada does not fully disclose a mobile station transmitter for a mobile communication system, comprising a dedicated control channel (DPCCH) for transmitting control information including TFCI bits, and FBI bits for a phase difference between at least two transmit diversity antennas used by the base station; a dedicated data channel (DPDCH) for transmitting user data. In the same field of endeavor, a mobile station transmitter for a mobile communication system, comprising a dedicated control channel (DPCCH) for transmitting control information including TFCI bits, and FBI bits for a phase difference between at least two transmit diversity antennas used by the base station; a dedicated data channel (DPDCH) for transmitting user data (Figs 1-5 and Page 1, lines 20 to page 10, lines 5).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to apply a dedicated control channel (DPCCH) for transmitting control information including TFCI bits, and FBI bits for a phase difference between at least two transmit diversity antennas used by the base station; a dedicated data channel (DPDCH) for transmitting user data as disclosed by the admitted prior art into Yamada's system. The motivation would have been to allow synchronization with the base station to be maintained and making it possible to restart communication immediately.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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Hosur (USP 6331975) discloses a user data indicator for discontinuous transmission.

Hulbert (USP 6421331) discloses a DPDCH and DPCCH.

Anderson (USP 6334047) discloses a DPCCH.

Stewart (USP 6009091) discloses a DPDCH and DPCCH.

Uesugi (EPO 893889) discloses a method and system for transmitting TPC in CDMA.

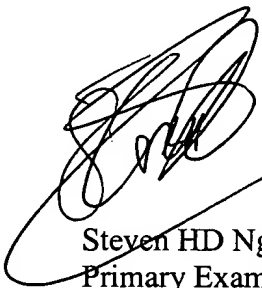
Pehkonen (USP 6266321) discloses a method and system which include DTC and PCCH.

Miya (USP 6330233) discloses a method and system for transmitting TPC and pilot symbol when the system does not have any data to transmit.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven HD Nguyen whose telephone number is (703) 308-8848. The examiner can normally be reached on 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy D Vu can be reached on (703) 308-6602. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.



Steven HD Nguyen
Primary Examiner
Art Unit 2665
October 6, 2003